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10/694,277	10/27/2003	Jason M. Brewer	TI-25247A	2806

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EXAMINER

PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
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2142

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

47

## Office Action Summary

Application No.

10/694,277

Applicant(s)

BREWER, JASON M.

Examiner

Prieto Beatriz

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 30-37, 42-46, 49-63, 66-70, 73 and 74 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-37, 42-46, 49-63, 66-70, 73-74 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### ***DETAILED ACTION***

1. This communication is in response to Amendment filed 05/20/05, claims 38-41, 47-48, 64-65, 71-72, claims 30-37, 42-46, 49-63, 66-70, 73-74 remain pending.

#### ***Claim Rejection under 35 U.S.C. 101***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 30-37, 42-46, 49-50 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,657,999. Although the conflicting claims are not identical, they are not patentably distinct from each other for the reasons noted below.

Instant application No. 10/694,277 is an obvious variation of patent 6,657,999 (referred to as patent '999). In this case, claims 30-37, 42-46, 49-50 of the application have substantially the same element of claims 1-15, e.g. claims 30-31 are substantially the same as claim 1 of the patent; claims 32-36 of the application are substantially the same as claims 1-4 of the patent; claims 34-36 are the same as claims 1-4 of the patent, claim 55-56 and 59 of the application are the same as claim 16 of the patent; and claims 61-64 of the application are the same as claims 1-15 of the patent. The difference between the application and the patent is that in the application claims 30-31 are broader than claim 1 of the patent,

and the computer (link layer gateway) has a network interface card to enable communication with the network, which thereby must be connected to the network medium via the network interface. The difference between claims 30-37, 42-46, 49-50 of the application and the patent are suffice to render the invention of these claims of the application patentably distinct and/or therefore substantially the same invention and/or a mere obvious variation of the patent '999.

4. Amendment to the claims has changed the scope of the claims and thereby claims 48-50 and 72-74 necessitate new grounds of rejection. Specifically, (i) "the IP protocol handler" has been changed to recite "a computer protocol handler", thereby the scope and breadth of claims 41-42, 44, 65, 66, 68 has been changed. (ii) On claim 43, "an IP communication" has been changed for "a protocol communication", "the destination protocol IP" has been changed for "the destination protocol address", and the clause "the destination IP address are not on either the first or second network medium", has been changed to the destination protocol address are not a same one of either the first or second network medium, thereby because of at least one of these changes, the scope and breadth of claims 45, 49, 50, 67, 69, 73, and 74 has been changed. (iii) On claim 66, the clause "communicate with the IP protocol handler", has been changed to "communicate with one of the first and second protocol handlers", thereby the scope and breadth of claims 45, and 68 has changed.

5. Quotation of the appropriate paragraphs of 35 U.S.C. 103 that form the basis for the rejections under this section made in this Office action may be found in previous office action.

6. Claims 30-31, 42-46, 49-60, 66-70 and 73-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Templin et. al. US 5,781,550 (referred to as '550) in view of Request for Comments 903, Finlayson et. al., June 1984 (referred to as Finlayson hereafter).

Regarding claim 30, Templin teaches a ("link layer") gateway computer (550: col 4/lines 49-55, Fig. 1) operable to communicate a data packet (10) from a source host computer (150) selected from one of a plurality of host computers coupled to a first network medium (110) to a destination host computer (160) selected from one of a plurality of host computers coupled to a second network medium (550: col 3/lines 65-col 4/line 12, gateway: col 1/lines 10-25, and col 2/lines 57-61);

a first network interface (231) and second network interface circuits (232) that enables connection of said computer to said first network second network respectively (550: col 4/lines 63-67, Fig. 2);

said computer has an assigned protocol address (550: col 2/lines 57-61) and each host computer coupled to each respective network has a hardware physical address used to communicate therewith associated with its respective network interface circuits (col 1/lines 42-53, 63-column 2/line 9);

responsive to either of the first and second circuits receiving a data packet (10) (550: col 5/lines 45-48), a computer protocol handler (302) (550: col 4/lines 29-32) on said computer evaluates the header (20) of said received data packet (10) comprising a destination protocol address (550: col 6/lines 10-22 and col 7/lines 31-35);

the handler is responsive to packet if the address belongs to the gateway (col 6/lines 10-22, col 7/lines 31-35);

the computer is configured to execute a link layer protocol handler (303) coupled to communicate with each of the first and second network interface circuits (Fig. 3);

response to receiving a data packet via one of the network interface circuits comprising a communication (10), the link layer protocol handler (303) evaluates the destination address received therein (col 7/lines 14-16, 43-44);

responsive to determining that the destination is not gateway (col 7/lines 14-16, 43-44), determining if the source host computer on received packet is on the first network and the destination on the received packet is on the second network, i.e. source and destination are not on the same network, thereby the gateway is operable to communicate said received data packet from a source on the first network medium to said destination on the second network medium (col 6/lines 41-44, 56-55); although Templin discloses a gateway computer relaying address pairing communications (i.e. data packet comprising source and destination addresses) between a first and second network medium between host computers coupled to their respective networks via their corresponding network interface circuits and the communication protocol; wherein host computer use of address-pairing communications for determining the IP address between host computers via address resolution protocol, however Templin does not explicitly teach where the communications received by the gateway is a protocol-address pair request, wherein a request for the protocol address of a computer host given its physical hardware address.

Finlayson suggests a method for computers to determine the protocol address (e.g. the IP address) when given their physical hardware address is known using an address pairing maintain a database mapping of the hardware to protocol address correspondence and respond to request from other hosts (page 1); the method is implemented as a link layer protocol "handler" stack (section III page 2); the request communication comprises a source and target hardware address and the address to be determined; the reply "address pairing" communication comprises the "physical" hardware address and IP address of

the responder, and the hardware (provided in the request) and IP address of the target (desired address) (page 3).

It would have been obvious to one ordinary skilled in the art at the time the invention was made given the suggestions of Templin to use of address-pairing communication for determining addresses, the disclosure of Finlayson performing address resolution protocol communications would have been readily apparent. One ordinary skilled would have recognized the disclosure of Finlayson also performing an address pairing communication, known as ARP protocol, well-known at the time the invention was made, wherein the request for an IP address given a hardware address (i.e. RARP), typically replied by the target host coupled to on the same network as the requester when recognizing its own address (as discussed by Templin), further would be replied by a host computer instead and not the targeted host (as disclosed by Finlayson). One ordinary skilled in the given that same suggestion would have also recognize that proxy-ARP performed by gateways was well-known<sup>1</sup> at the time the invention was made, wherein gateways storing requested information would proxy replies on behalf of the target host in the same fashion discussed by Templin. One would be motivated to enable host to communicate with others not on the same network or the same subnet without the need to configure each hosts on the network with the storage capacity to maintain network typology related information, by configuring the gateways interconnecting multiple networks which may better observe the internetworking traffic, such as ARP and proxy ARP to accumulate this information, since that proxy/route communications destined to hosts located on other networks.

Regarding claim 31, the link layer gateway computer operable to communicate a data packet from a source host computer selected from one of said plurality of host computers coupled to said second network medium to a destination host computer selected from one of said plurality of host computers coupled to said first network medium (550: col 2/lines 62-65).

7. Claims 32, 35-36 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Templin in view of Finlayson in further view of Krause et. al. (US 5,590,285) (referred to as '285 hereafter).

Regarding claim 32, 35-36 and 61, however Temple does not explicitly teach wherein said first or second network medium is local area network, a wide area network, and an Ethernet network.

Krause teaches an ("link layer gateway computer") IS computer for interconnecting a first and second network (e.g. local and remote LANs) each having a respective first and second transmission medium and computers attached thereto (e.g. PCs, etc) and enable communication between the computers

from one network to another (285: col 1/lines 10-col 2/line 20 and col 3/lines 20-40, col 8/lines 63-col 9/line 11 and Fig. 2 & 4) further teaching

wherein said first or second network medium is local area network, a wide area network (285: col 8/lines 53-55, Fig. 4), an Ethernet network (285: col 15/lines 24-30).

It would have been obvious to one ordinary skilled in the art at the time the invention was made given the teachings for implementing his teachings without requiring modification on the host computers on the network and independent of there limitations, and without requiring the gateway computer to be a dedicated computer, the teachings of Krause would be readily apparent. One would be motivated to enable bridging, routing and brouting function on an expandable computer system multiple different types networks such as Ethernet token rings, token buses, FDDI, ISDN, etc.

8. Claims 33-34 and 62-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Templin in view of Krause in further view of Hoffman, et. al. IEEE 1394: A Ubiquitous Buss, IEEE, 1063-6390, 1995, p. 334-338.

Regarding claims 33-34, and 62-63, although the prior art teach where one of the network medium is an Ethernet, it does not teach where one of the network mediums is a bus type, particularly, a standard IEEE 1394.

Hoffman teaches a interconnected networks including computers interconnected with IEEE 1394, including one computer on a first network medium communicating with another on a second network medium (section 4.1 p. 335-336), it would have been obvious to one ordinary skilled in the art at the time the invention was made given Templin teachings applicable to include host computers with limiting constraints interconnecting networks comprising bus type networks for coupling laptops would be readily apparent. One ordinary skilled in the art would be motivated to cover a broad spectrum of computers and peripherals supporting flexible topology including branching.

9. Claims 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Templin in view of Finlayson in further view Wright, Jr. et. al. (US 5,857,201) referred to as Wright hereafter.

Regarding claim 37, Templin does not explicitly teach where one of the network medium is a wireless network;

Wright teaches a gateway computer operable to communicate data from a one of a plurality of portable host computers coupled to a wireless network medium (col 5/lines 40-41) to a destination host computer (Fig. 1 and 2, col 6/lines 21-33).

It would have been obvious to one ordinary skilled in the art at the time the invention was made given by Templin related to a client-server communication over the Internet including private networks, the teachings of Wright would be readily apparent. One would be motivated to include access to private networks such as enterprise resource utilizing wireless computers enabling unlimited number of user connections over a variety of transmission medium transport networks concurrently.

Claims 38-41 (Canceled)

Regarding claim 42, the computer is programmed to execute an application program coupled to communicate with the computer protocol handler (550: Fig. 3, col 5/lines 60-62).

Regarding claim 43, responsive to receiving on the first or second network interface circuits a data packet comprising "a protocol communication" information, the link layer protocol handler evaluates a destination protocol address in the received data packet (550: col 6/lines 10-22 & col 7/lines 31-35); and

responsive to determining that the destination protocol address does not correspond to the assigned address of the link layer gateway computer (550: col 6/lines 10-23), the link layer protocol handler determines if a source host computer which transmitted the received data packet is on the first network and the destination host computer is on the second network, i.e. they are not on the same network medium (550: col 6/lines 44-44, 56-65), therefore the received communication information is to be forwarded to the destination host computer.

Regarding claim 44, wherein the computer protocol handler (302) is separate of the link layer protocol handler (303) (550: Fig. 3).

Regarding claim 45, wherein, responsive to the link layer protocol handler determining that the source host computer which transmitted the received data packet and the destination host computer designated by the destination protocol address are from a trusted network and untrusted network, respectively (550: col 5/lines 9-20), i.e. not from the same network mediums;

the link layer protocol communicates the received data packet from the network medium connected to the source host computer to the network medium connected to the destination host computer, i.e. relays (550: col 4/lines 33-39, relays from a first network to second network, col 6/lines 41-46, 56-65).



Regarding claim 46, the received data packet further comprises a hardware physical address (550: col 1/lines 45-47, 51-53, col 5/lines 46-49); the host computer (source/destination & gateway) comprises a network interface circuit coupling them their respective network mediums (550: col 4/lines 3-6, col 1/lines 38-53);

the network interface circuit for receiving and sending data of the destination host computer is responsive to a destination hardware physical address (550: col 1/lines 38-53); and

prior to communicating the received data packet from the network medium connected to the source host computer to the network medium connected to the destination host computer, the link layer protocol handler changes the hardware physical address to match the destination hardware physical address (550: col 10/lines 45-59).

#### Claims 47-48 (Canceled)

Regarding claim 49, as discussed on claim 30, a gateway interconnecting a first and second network (550: Fig. 1) and configured to receive a data packet and determine with respect to received packet that said packet is destined to a host computer located on the second network coupled thereto through its respective second network interface circuit, said received packet from a source host computer located on the first network coupled thereto through its respective first network circuit interface (550: col 6/lines 41-44, 56-65); said gateway configured to reply to the requester (source host computer) of an address pairing communication for information associated with a destination host computer, the reply comprising the source protocol and physical hardware address, the destination protocol and physical hardware address and the gateway protocol and physical hardware address (RFC: p. 3).

Regarding claim 50, this claim comprises the combined limitations of claims 30 and 45, same rationale of rejection is applicable.

Regarding claim 51, comprises the same limitations as discussed on claim 30, same rationale of rejection is applicable, a computer called a link layer gateway, comprising: a first protocol handler (320) coupling a first network interface circuit (231) to an application program (340) (550: Fig. 3);

a second protocol handler (321) coupling a second network interface circuit (232) to an application program (340) (550: Fig. 3); and

a link layer protocol (326) coupling said first protocol handler and said first network interface circuit to said second protocol handler and said second network interface circuit (550: Fig. 3).

Regarding claim 52, wherein said link layer protocol (326) is at the same hierarchical level as said first protocol handler (320) and said second protocol handler (321) (550: Fig. 3).

Regarding claim 53, wherein said link layer protocol is not part of an operating system of said computer (304) (550: fig. 3).

Regarding claim 54, wherein said link layer protocol is not part of the operating system of said computer and, therefore, executes independently of operating system protocols (550: col 4/lines 56-col 5/line 8, 285: col 5/lines 40-44).

Regarding claim 55, wherein said link layer protocol detects whether a data packet received on said first/second network interface circuit is addressed "intended" for a computer coupled to the other of said first network interface circuit and said second interface circuit (550: col 6/lines 10-22, col 7/lines 31-35).

Regarding claim 56, this claim is substantially the same as limitations on claims 41 and 45, same rationale of rejection is applicable.

Regarding claim 57, said data packet does not reach any application program of said computer (285: col 2/lines 50-56, col 3/lines 59-60, col 4/lines 50-55).

Regarding claim 58, wherein said first network interface is bi-directionally coupled to said first protocol handler (550: Fig. 3).

Regarding claim 59, wherein said first network interface is designed to receive a network medium different from the network medium to be received by said second network interface (550: col 5/lines 46-54, 285: col 6/lines 9-32).

Regarding claim 60, wherein said second network interface is bi-directionally coupled to said second protocol handler (550: Fig. 3).

Regarding claim 61, this claim is substantially the same as claim 32, same rationale of rejection is applicable.

Claims 64-65 (Canceled)

Regarding claims 66-70, and 73-74 these claims are substantially the same as claims 42-46, and 49-50, same rationale of rejection is applicable.

**Citation of Pertinent Art:**

10. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Copies of Non-Patent Literature documents cited will be provided as set forth in MPEP § 707.05(a):

[1]Requirements for Internet Gateways, RFC: 1009, R. Braden & J. Postel, June 1987

Braden et. al. discloses a gateway is connected to two or more networks, appearing to each of these networks as a connected host assigned a physical interface and an IP address on each of the connected networks e.g. LANs, which may have a variety of designs, typically based upon bus, ring, or star topologies and WANs. Address Resolution Protocol (ARP) is an auxiliary protocol used to perform dynamic address translation between LAN hardware addresses and Internet addresses, and is described in RFC-826 [4]. ARP depends upon local network broadcast. In normal ARP usage, the initiating host broadcasts an ARP Request carrying a target IP address; the corresponding target host, recognizing its own IP address, sends back an ARP Reply containing its own hardware interface address. A variation on this procedure, called "proxy ARP", has been used by gateways attached to broadcast LANs [14]. The gateway sends an ARP Reply specifying its interface address in response to an ARP Request for a target IP address which is not on the directly-connected network but for which the gateway offers an appropriate route. By observing ARP and proxy ARP traffic, a gateway may accumulate a routing data-base [14]. Proxy ARP is useful for routing datagrams from hosts which do not implement the standard Internet routing rules fully, e.g., host implementations which predate the introduction of subnetting. Proxy ARP for subnetting is discussed in detail in RFC-925 [14]. Reverse ARP (RARP) allows a host to map an Ethernet interface address into an IP address [15].

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (571) 272-3902. The Examiner can normally be reached on Monday-Friday from 6:00 to 3:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Andrew T. Caldwell can be reached at (571) 272-3868. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, status information for published application may be obtained from either Private or Public PAIR, for unpublished application Private PAIR only (see <http://pair-direct.uspto.gov> or the Electronic Business Center at 866-217-9197 (toll-free).

Any response to this action should be mailed to:  
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**BEATRIZ PRIETO**  
**PRIMARY EXAMINER**